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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,821	11/13/2003	E. Michael Ackley JR.	4389-5	7840

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EXAMINER

PHAM, HOA Q

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/705,821

Applicant(s)

ACKLEY ET AL.

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23,25-37,39-42,44-53,55-63 and 85-90 is/are pending in the application.
- 4a) Of the above claim(s) 87-90 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23,25-37,39-42,44-53,55-63,85 and 86 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/13/03, 1/30/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 1-23, 25-37, 39-42, 44-53, 55-63, 85, and 86) in the reply filed on 6/30/04 is acknowledged. The traversal is on the ground(s) that there is no serious additional burden on the part of the Patent Office for the examination of claims 87-90. This is not found persuasive because Group II (claims 87-90) is drawn to different invention, which discloses a laser drilling system classified in class 219, while Group I discloses an article inspection unit classified in class 356. Thus, the examiner has satisfied the requirements of MPEP section 808.02 on the basis of different search; separate status in the art because of their recognized divergent subject matter.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 9, 10, 32-36, 40-41, and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Yaginuma et al (5,019,326).

Regarding claims 1, 32, and 62; Yaginuma et al discloses a first camera unit (5) positioned adjacent a first side of the conveyor mechanism (6) for sensing the

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characteristic of a plurality of pellet-shaped articles (P) and a removal mechanism (66), down stream from the first camera unit, structured to remove at least a selected one of the plurality of pellet-shaped articles from at least a selected portion of the conveyor mechanism depending on whether the characteristic is sensed by the first camera unit (see figures 1, 5, 25, 26; column 2, lines 28-62, column 6, lines 12-53; column 8, lines 34-67, column 9, lines 12-67).

Regarding claim 2, see column 8, lines 38-41, for image processing unit and sorting unit (112) in communication with the first camera unit and the removal mechanism.

Regarding claim 3, see a second camera unit (5 or 7) in figure 5 of Yaginuma.

Regarding claim 4, see claims 2-3 above.

Regarding claim 5, Yaginuma et al teaches that both camera units are used for inspecting surface defects of the pellets.

Regarding claim 9, see removal mechanism (66) in column 6, line 36.

Regarding claim 10, see claim 5 above.

Regarding claim 32, same as claim 1 above; in addition, Yaginuma et al shows a plurality of carrier bars (60a) in figure 1.

Regarding claim 33, see column 8, lines 38-41, for image processing unit and sorting unit (112) in communication with the first camera unit and the removal mechanism.

Regarding claim 34, see a second camera unit (5 or 7) in figure 5 of Yaginuma.

Regarding claims 35, see claims 2-3 above.

Regarding claim 36, Yaginuma et al teaches that both camera units are used for inspecting surface defects of the pellets.

Regarding claim 40, see removal mechanism (66) in column 6, line 36.

Regarding claim 41, see claim 36 above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-8, 11-23, 25-31, 37, 39, 42, 44-53, 55-61, 63, and 85-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yaginuma et al in view of Ainsworth et al (5,703,377), Ahmed et al (5,147,047), Yaginuma (5,652,432).

Regarding claims 6 and 37, Yaginuma et al teaches that the apparatus can be used to inspect the surface of the pellet or other object (column 1, lines 40-43), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the basic device of Yaginuma et al for inspecting an object such as tablet because they would function in the same manner as suggested by Yaginuma et al.

Regarding claim 7, Ainsworth et al, from the same field of endeavor, teaches the use of a ring light and a camera for inspecting the surface of a cylindrical object such as fuel pellet (figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the light source and the camera of

Yaginuma et al by a ring light and camera taught by Ainsworth et al for the same purpose of inspecting the surface of the pellets. A substitution one for another is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 8 and 17-18, Yaginuma et al teaches that the two inspection units (5) are opposite with respect the conveyor (figure 5), it would have been obvious to one having ordinary skill in the art the time the invention was made to arrange the inspection units so that one is positioned transverse to and on an upper side of the conveyor and the other is positioned transverse to and on an inner side of the conveyor, since it has been held that rearranging parts of the invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Regarding claims 11-12, Ahmed et al, from the same field of endeavor, teaches that the line scan camera (16) is positioned to scan a plurality of pellets' surfaces simultaneously (column 4, lines 47-49 and figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inspection unit of Yaginuma et al so that a plurality of pellets are scanned simultaneously as taught by Ahmed et al. The rationale for this modification would have arisen from the fact that by inspect a plurality of pellets simultaneously would increase the speed of the inspection.

Regarding claims 13-14 and 29-30, Yaginuma teaches that the defects can be detected on the basis of detecting the color of the pellet (column 7, lines 6-32 and column 8, lines 36-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Yaginuma et al step of detecting

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defects of the pellet on the basis of detecting color of the pellet as taught by Yaginuma because they are from the same field of endeavor.

Regarding claims 15-16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the pellet discard unit of Yaginuma et al by a blower for the purpose of removing the pellet from the conveyor.

Regarding claims 19 and 26, see pellet discard unit (66) in figure 1 of Yaginuma et al.

Regarding claim 20, see claim 2 above.

Regarding claims 21 and 48-52, Yaginuma teaches different characteristics are determined such as shape abnormalities, discoloration abnormalities, density abnormalities, etc... (column 12, lines 11-19).

Regarding claim 22, see claim 5 above.

Regarding claim 23, Yaginuma et al teaches that the apparatus can be used to inspect the surface of the pellet or other object (column 1, lines 40-43), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the basic device of Yaginuma et al for inspecting an object such as tablet because they would function in the same manner as suggested by Yaginuma et al.

Regarding claim 25, see claim 2 above.

Regarding claim 27, see claims 15-16 above.

Regarding claim 28, see figure 4 of Yaginuma for inspecting both sides of the pellet.

Regarding claim 31, see claim 4 above.

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Regarding claim 42, see claims 11-12 above.

Regarding claims 44-45, see claims 13-14 above.

Regarding claims 46-47, see claims 15-16 above.

Regarding claim 53, see claim 6 above.

Regarding claim 55, see claim 39 above.

Regarding claim 56, see claim 25 above.

Regarding claim 57-58, these claims are the same as claims 11-12 above.

Claim 59 is the similar to claim 29 above.

Regarding claim 60-61, see claims 15-16 above.

Regarding claim 63, see claim 4 above.

Regarding claims 85-86, Yaginuma et al does not explicitly teach an inspection unit for comparing the predetermined characteristic against a given standard. However, such a feature is known in the art as taught by Ahmed et al. Ahmed et al, from the same field of endeavor, discloses a pellet inspection system in which the defects are determined on the basis of comparison between the predetermined characteristic and a predetermined standard (figure 2 and column 4, lines 49-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Yaginuma et al step of comparison between the predetermined characteristic and a standard as taught by Ahmed et al because this is a known method which is known to serve for the purpose of Yaginuma et al of detecting the defects such as cracks and chips of pellets.

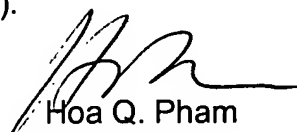


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bernardin et al (5,602,646) discloses a pellets inspection device and Deters et al (5,186,942), Loring (6,130,405) and Hokodate et al (6,353,203) disclose a laser machining device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Hoa Q. Pham  
Primary Examiner  
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